

Enhancing Diversity in Clinical Trials: The potential of Two-Sided Online Matching Platforms

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The participation gap in clinical trials

- Inequalities persist in healthcare regarding **access, service quality and health outcomes**.
- Only **5% of eligible patients participate in clinical trials** (Goodson et al., 2022)
- **1/5 of medical studies** are either conducted despite not meeting the primary goal or are **stopped** early owing to insufficient recruitment (Goodson et al., 2022)
- Black, Indigenous and People of Colour (**BIPOC**) are **underrepresented** in therapeutic trials as an examination of 230 clinical studies conducted in the US revealed (Gebreyes et al., 2021).
- Among 230 vaccination clinical trials conducted in the United States, **73%** of the participants were **White American** adults, with just 13% being Black, 17% being Hispanic or Latino, and 5% being Asian (Younossi et al., 2021).
- In a recent study, **41.2%** of clinical trial participants were **female** even though females constitute **50.8%** of the US population (Blakemore, 2022).

Why don't eligible patients enroll in clinical trials?

- **Underrepresented Demographics:** Often not included in the recruitment process.
 - **Duration Concerns:** Trials typically last longer than five years, posing a substantial time commitment.
 - **Insurance Concerns:** Fears about insurance not covering the clinical trial.
 - **Overhead Costs:**
 - Travel expenses to clinics.
 - Additional childcare requirements.
 - Lost wages from missed work.
 - **Income Concerns:** Lower-income individuals might be deterred by the above overhead costs.
 - **Language Barrier:** Dissuades minorities from participating in clinical trials.
- (References: Allison, Patel and Kaur, 2022; Younossi et al., 2021)

Aligning with research in operations management

- **Innovation Management**
 - The drug discovery process involves many operational aspects
 - Focus of this research: the **recruitment and retention** of clinical trial **participants**
 - Clinical trial outcomes are highly uncertain
 - Potential for **innovative changes** in patient recruitment for drug discovery
- **Business model Innovation / New business models**
 - Importance of **technological trends** like Big Data, AI, and ML in modern business models (Kavadias, Ladas and Loch, 2016).
 - This research argues that **connecting patients** suffering from a medical condition **with the appropriate clinical trial**, leveraging Big Data, constitutes a business model innovation
- **Two-sided markets**
 - a “two-sided market is one in which the volume of transactions between end-users depends on the structure and not only on the overall level of the fees charged by the platform” (Rochet and Tirole, 2006, p. 646)
 - This research extends the literature of two-sided markets to **include the two-sided market of clinical trials and patients**.
- **Online matching platforms**
 - The most valuable **resource** for a matching platform is a **sizable, engaged, and population-diverse customer base** (Chen et al., 2020)
 - The clinical trial online matching occurs in a decentralized environment where **agents look for a match** using the **information** provided by the other side of the platform, given their **preferences** (Kanoria and Saban, 2021)

Inefficiencies in patient recruitment

lack of cooperation and coordination among stakeholders

- Physicians don't suggest ongoing clinical trials
- Investigators exaggerate ability to recruit

Lack of information/awareness

- Lack of education: participants find clinical trials too complex
- Lack of trust in clinical trial team
- Lack of engagement with patient advocacy groups

Figure 1 Clinical trial inefficiencies (Briel et al., 2021)

Addressing the lack of information about clinical trials: an online two-sided matching platform

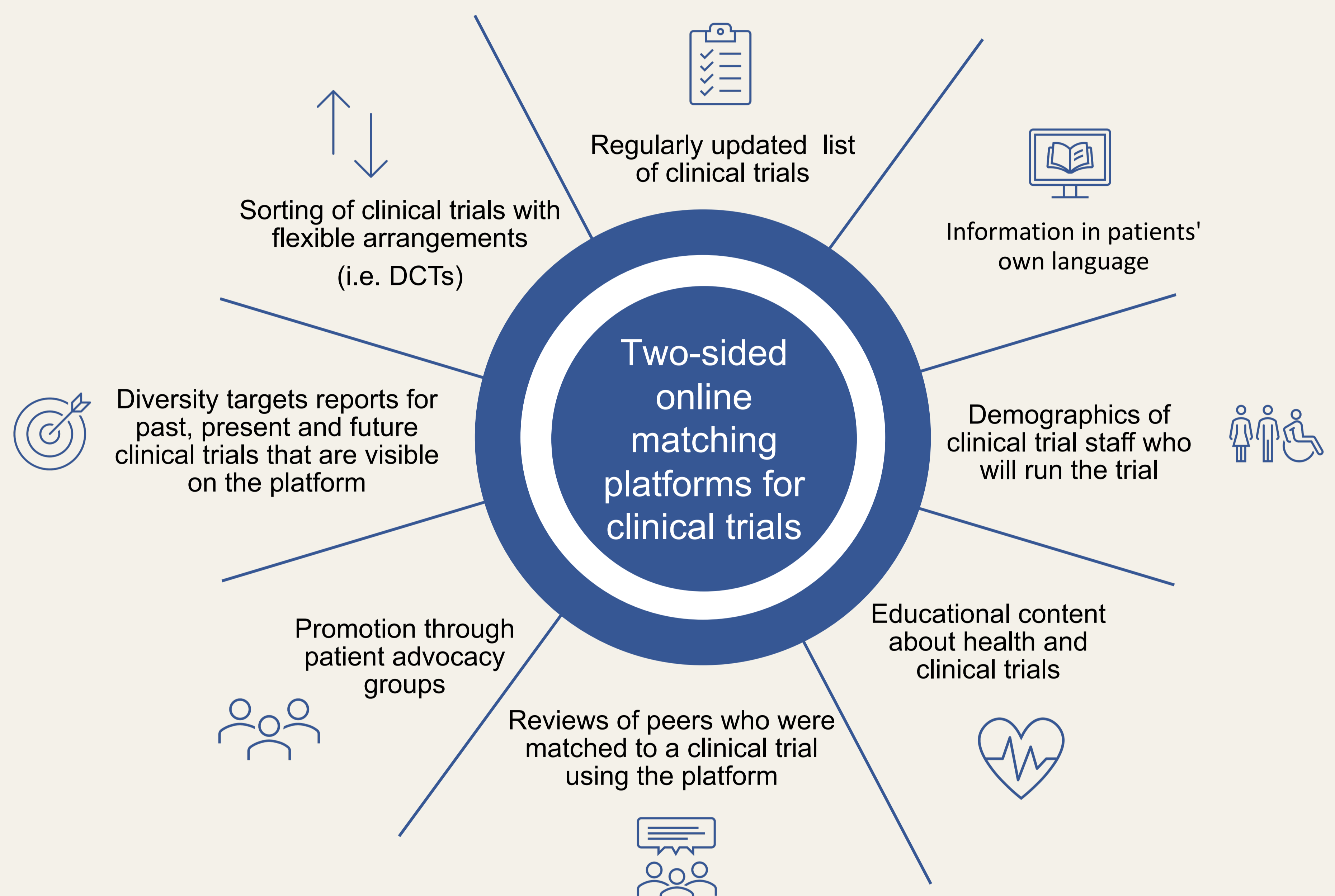


Figure 2 Features of the online two-sided matching platform for clinical trials

Your feedback matters! 😊

What is your initial impression of the research presented?

Do you have any suggestions for future directions of this research?

Write in the post-it notes and stick it to the poster!

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